NOTES ON AUSTRALIAN CHENOPODIACEAE.

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(Four Text-figures.)

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Kochia Cheelii, n. sp.

Fruticulus, ramis albo-tomentosis nonnunquam glabrescentibus, foliis linearisubteretibus glabris vix acutis 6–10 mm. longis, perianthio fructifero valde depresso tomentoso circiter 5 mm. diametro 5 aliis horizontalibus rigidis crassiusculis plus minusve cuneatis comprehensis, tubo breviter convexo 1·5–2 mm. lato infra alas ipsas 10 costis prominentibus instructis.

Zara, E. Officer, 12, 1913.

This species is a dwarf shrub, the branches at first white tomentose but sometimes becoming almost glabrous in age. The leaves are narrow linear, somewhat terete, glabrous or almost so, and 6–10 mm. long.

The fruiting perianth is more or less covered with a rather loose woolly tomentum, and including the wings is about 5 mm. in diameter. The five wings are quite distinct, rather thick and hardened, broadly cuneate and contracting into a fairly broad stipes. The shortly convex tube is marked by 10 prominent radiating ribs, which extend to the wings.

This species resembles *Kochia brevifolia* R.Br. in having 5 equal and separate horizontal wings, and in the tube of the fruiting perianth being ribbed. It differs, however, in the hardened and thickened nature of the wings (which are membraneous in *Kochia brevifolia* R.Br.), in the woolly tomentum covering the fruiting perianth and in the leaf characters. The fruiting perianth of *K. brevifolia* R.Br. is glabrous or slightly pubescent.

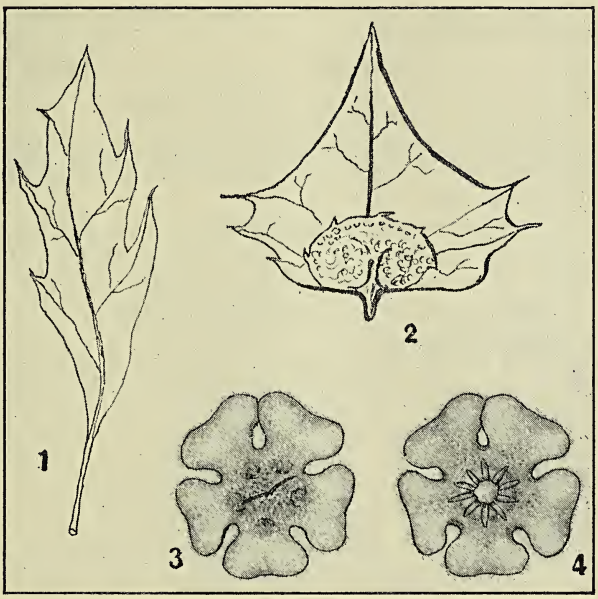
In the thickened character of the wings the species shows affinities with *Kochia scleroptera* J. M. Black, but in the latter species the fruiting perianth is completely concealed under a dense woolly tomentum, the leaves are silky villous, and the tube of the fruiting perianth is not ribbed.

The species is named in honour of Edwin Cheel, Government Botanist and Curator of the National Herbarium, Sydney, who first drew attention to the distinctive character of this species, and in recognition of his many contributions to the advancement of botany in this State.

Atriplex acutilobum, n. sp.

Herba annua plus minusve cano-farinosa, foliis ad 6 cm. longis ovato-lanceolatis sinuato-dentatis lobis acutis ad basim attenuatis, floribus glomeratis, bracteolis fructiferis late-triangularibus circiter 5 mm. latis marginibus

denticulatis appendicibus plus minusve spongiosis instructis, semine orbiculari fusco, radicula supera.



Text-figs. 1-4.
1.—Leaf of *Atriplex acutilobum.*
2.—Fruiting perianth of *Atriplex acutilobum.*
3.—Fruiting perianth of *Kochia Cheelii* (upper surface).
4.—Fruiting perianth of *Kochia Cheelii* (lower surface).

Stephen's Creek, near Quandong Hotel, 30 miles east of Broken Hill, A. Morris, No. 2732, 25.10.1931.

This species is a fairly stout erect annual about 45 cm. high, the young branches, undersurface of leaves, flowers and fruiting bracteoles being more or less scaly tomentose. The mature leaves are ovate-lanceolate, up to 6 cm. long, sinuate toothed, the lobes generally very acute or drawn out into a fine point, glabrous above, scaly tomentose on the undersurface and tapering at the base into a fairly long petiole.

The fruiting bracteoles are broadly triangular, about 5 mm. long and as broad or somewhat broader than long. The margins are variously toothed, the teeth often somewhat drawn out into a fine point and each bracteole bears a distinct slightly spongy appendage at the base, the appendage being often slightly toothed and occasionally 2-lobed.

In some respects this species resembles *Atriplex velutinellum* F.v.M., but it differs from that species in having petiolate leaves and in the character of the fruiting bracteoles. The fruiting bracteole of *A. velutinellum* is triangular lanceolate, being usually much longer than broad, and is entire or with irregular teeth at the base. Like other species of the genus, *A. velutinellum* varies a good deal in the character of the appendage at the base of the bracteole. In most cases this is absent or very inconspicuous, but occasionally a fairly well developed

appendage is found on one or both bracteoles. This appendage is often toothed, but in no case is it so conspicuous or well developed as in *A. acutilobum.*

The general shape of the fruiting bracteoles and the presence of the conspicuous appendages, apart from the petiolate leaves, readily distinguish the proposed species from *A. velutinellum.*

So far the species has been recorded only from the locality given above.

Bassia convexula R. H. Anders.

This species is now recorded from Queensland, a specimen having been collected at Yanna, near Charleville, by G. D. Hutchison (March, 1934). This is the typical form of the species.

Apart from this locality an interesting form has been collected by John Mann near Roma (March, 1934). This differs rather markedly from the typical form of the species. The fruiting perianth is much smaller, the spines considerably reduced, often to mere protuberances, the top of the tube is much flatter, and the habit of growth is generally weaker.

In the majority of fruiting perianths examined the longest spine was barely 1 mm. long, while the other spines were shorter or reduced to points or blunt protuberances. The bifid spine found in the typical form of the species was in most cases reduced to a blunt protuberance or had only one of the points slightly developed. The apex of the tube of the fruiting perianth was flatter than is usual in the species. The seed was placed horizontally as in the species.

In some respects this form approaches *Bassia parviflora* R. H. Anders., but differs in the number and nature of the spines and in the character of the general vestiture.

It is possible that the variations in characters shown by this form are due to retarded development or abnormal growth conditions. If subsequent investigation shows that the differences are constant, then the form might be accorded varietal or specific rank.

Chenopodium carinatum R.Br. var. melanocarpum J. M. Black.

Hitherto this variety has been recorded in New South Wales only from the Broken Hill district, but it has now been collected at Bogan Gate by E. H. Ising (Collector's No. 2107).

The variety is a well defined one, the segments of the fruiting perianth being prominently keeled and completely covering the seed. The perianth also turns black on maturing.

Chenopodium carinatum R.Br. is a most widely distributed species in New South Wales, but the var. *melanocarpum* appears to be rare.

Bassia tricuspis (F.v.M.) R. H. Anders.

The fruiting perianth of this species is usually three-spined, although very occasionally a fourth spine is present, the spines being all more or less equal, and regularly spaced.

A specimen, however, from Chinchilla, Queensland, collected by J. Mann, has all the fruiting perianths furnished with four spines. The collector makes the following note: "The species grows quite freely in the Chinchilla district, and is mostly found on black soil country."